PATENT & TRADEMARK OFFICE
JUL 29 2005
OIPE

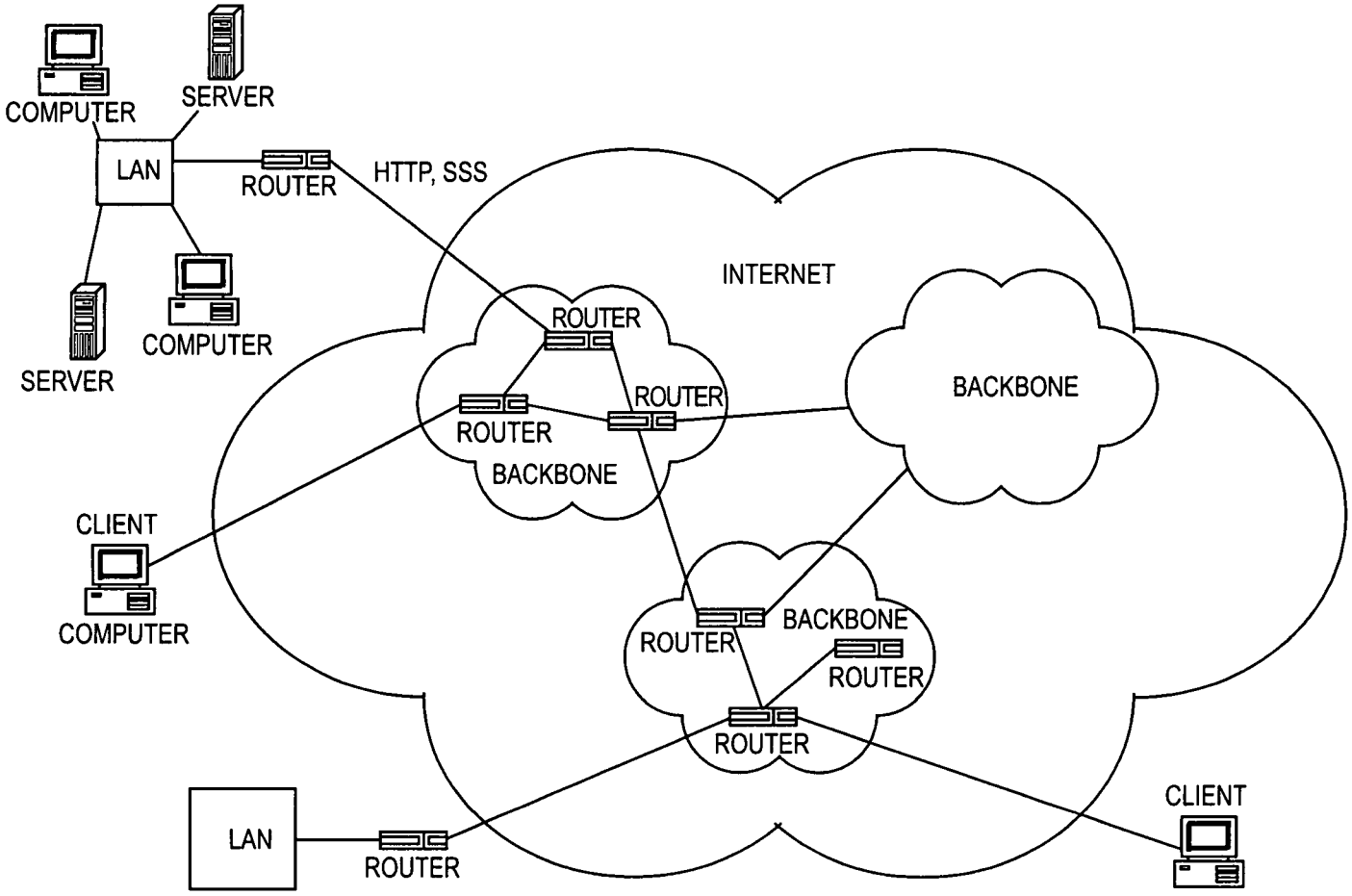

FIG. 1
(PRIOR ART)

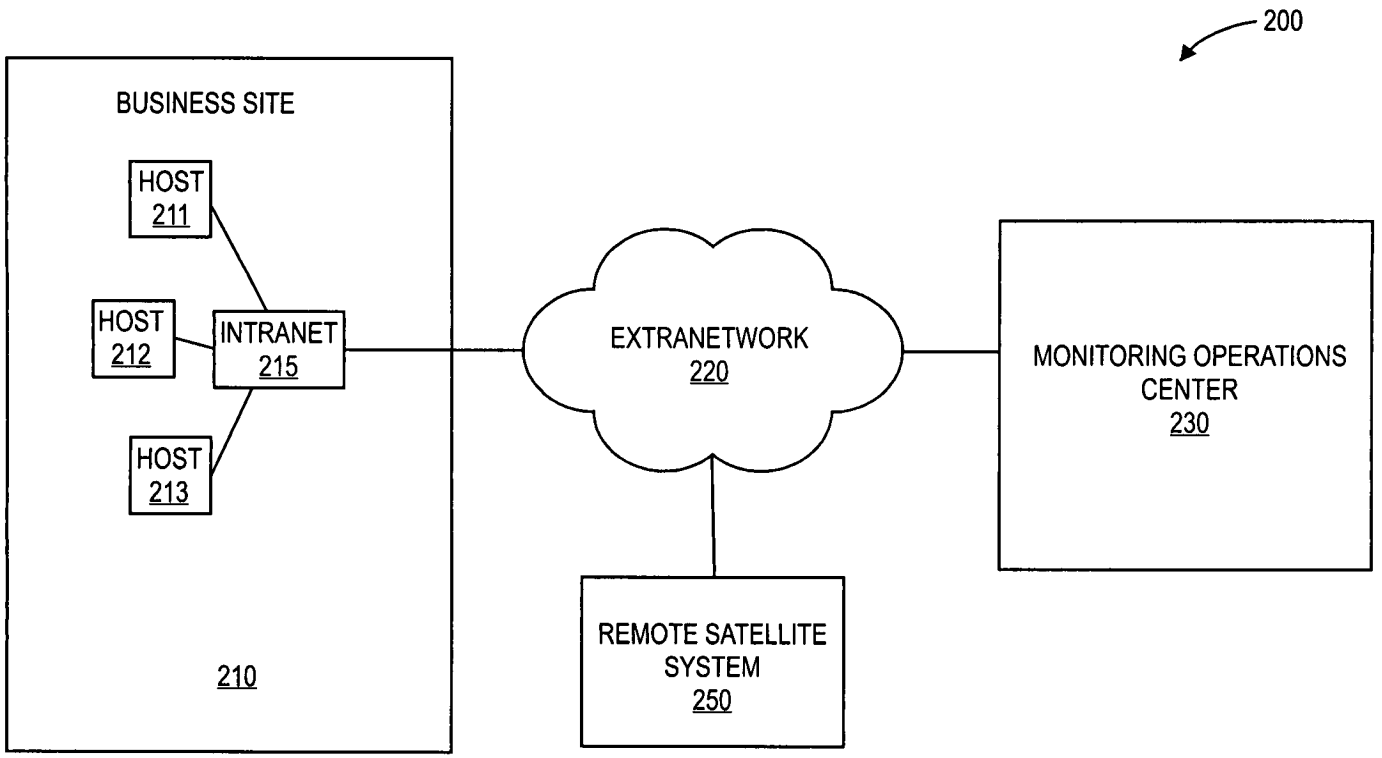
200
BUSINESS SITE
HOST
211
HOST
212
INTRANET
215
HOST
213
210
EXTRANETWORK
220
MONITORING OPERATIONS
CENTER
230
REMOTE SATELLITE
SYSTEM
250

FIG. 2

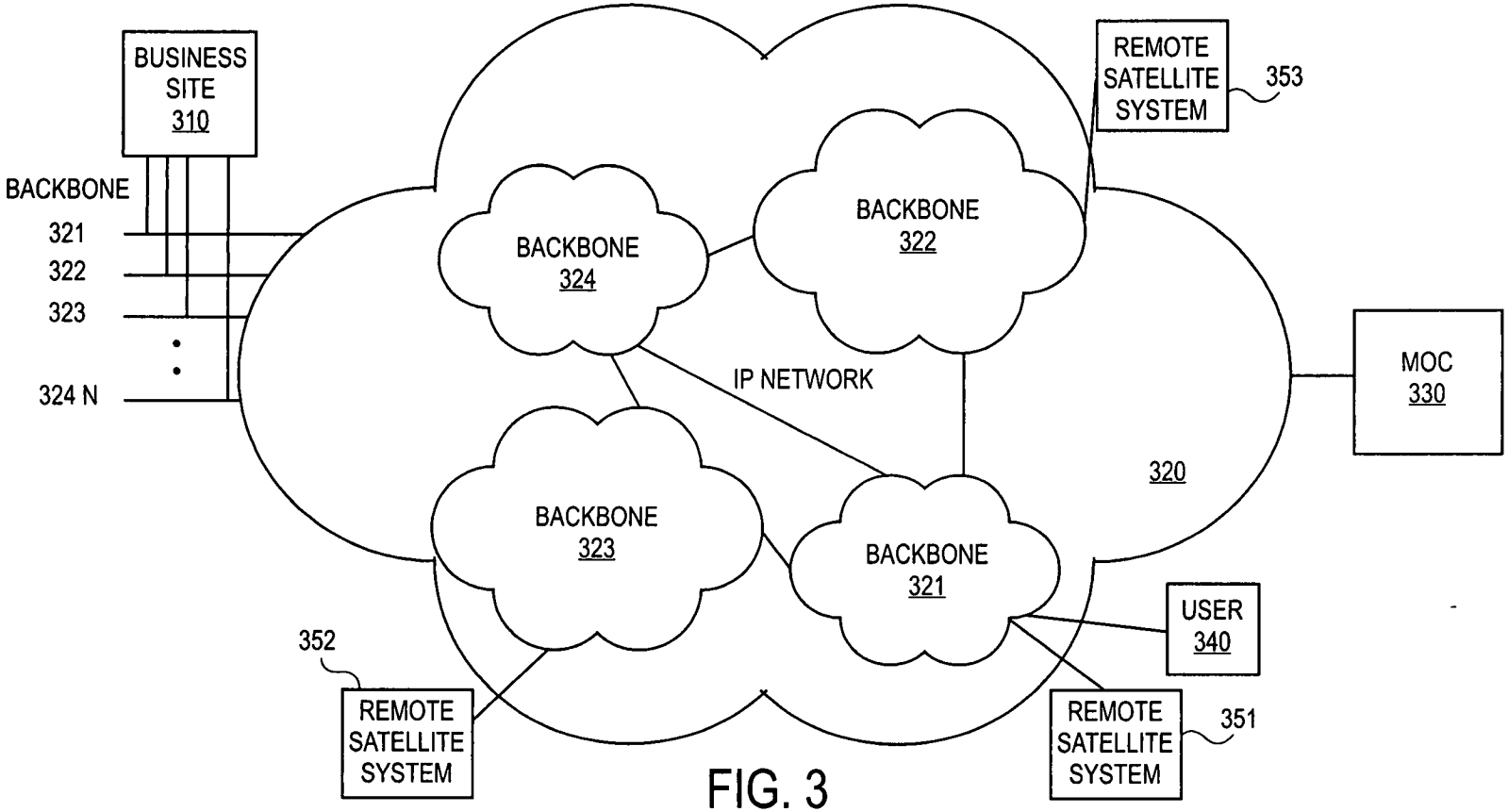
BUSINESS SITE 310
BACKBONE
321
322
323
324 N
BACKBONE 324
BACKBONE 322
IP NETWORK
BACKBONE 323
BACKBONE 321
320
REMOTE SATELLITE SYSTEM
353
MOC 330
USER 340
352
REMOTE SATELLITE SYSTEM
REMOTE SATELLITE SYSTEM
351

FIG. 3

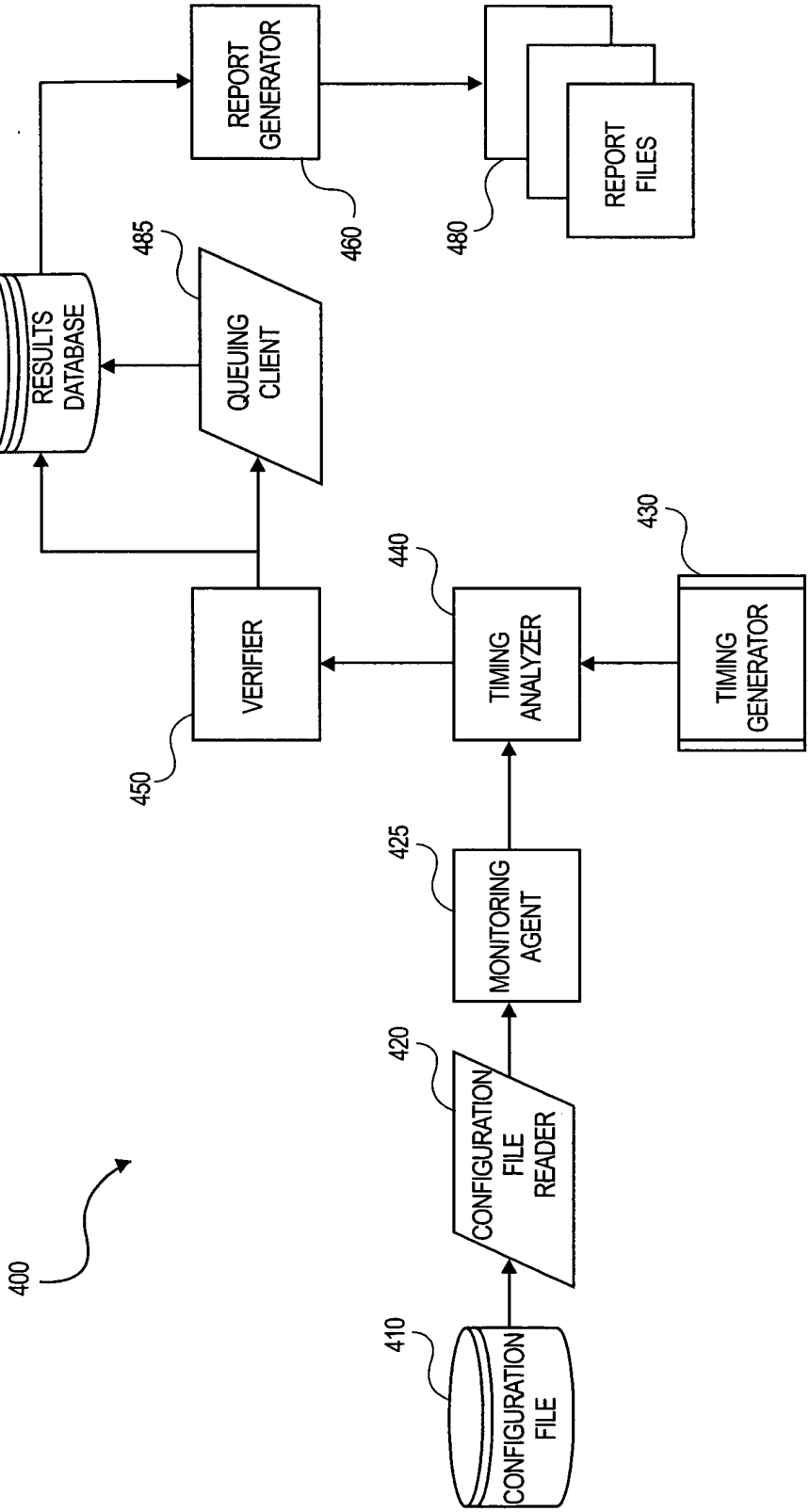
400
410
CONFIGURATION FILE
420
CONFIGURATION FILE READER
425
MONITORING AGENT
430
TIMING GENERATOR
440
TIMING ANALYZER
450
VERIFIER
460
REPORT GENERATOR
470
RESULTS DATABASE
480
REPORT FILES
485
QUEUING CLIENT

FIG. 4

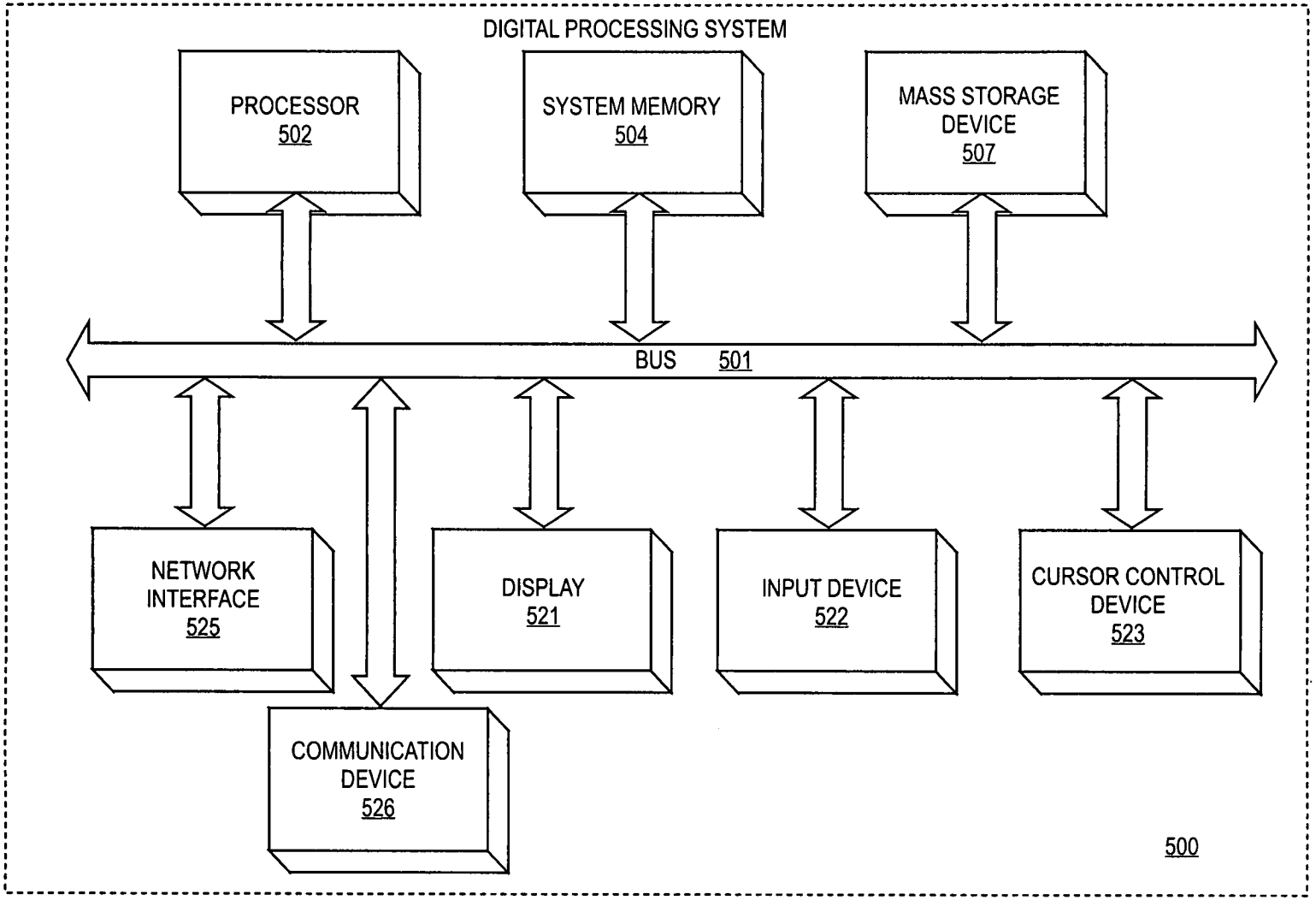
DIGITAL PROCESSING SYSTEM
PROCESSOR
502
SYSTEM MEMORY
504
MASS STORAGE
DEVICE
507
BUS
501
NETWORK
INTERFACE
525
DISPLAY
521
INPUT DEVICE
522
CURSOR CONTROL
DEVICE
523
COMMUNICATION
DEVICE
526
500

FIG. 5

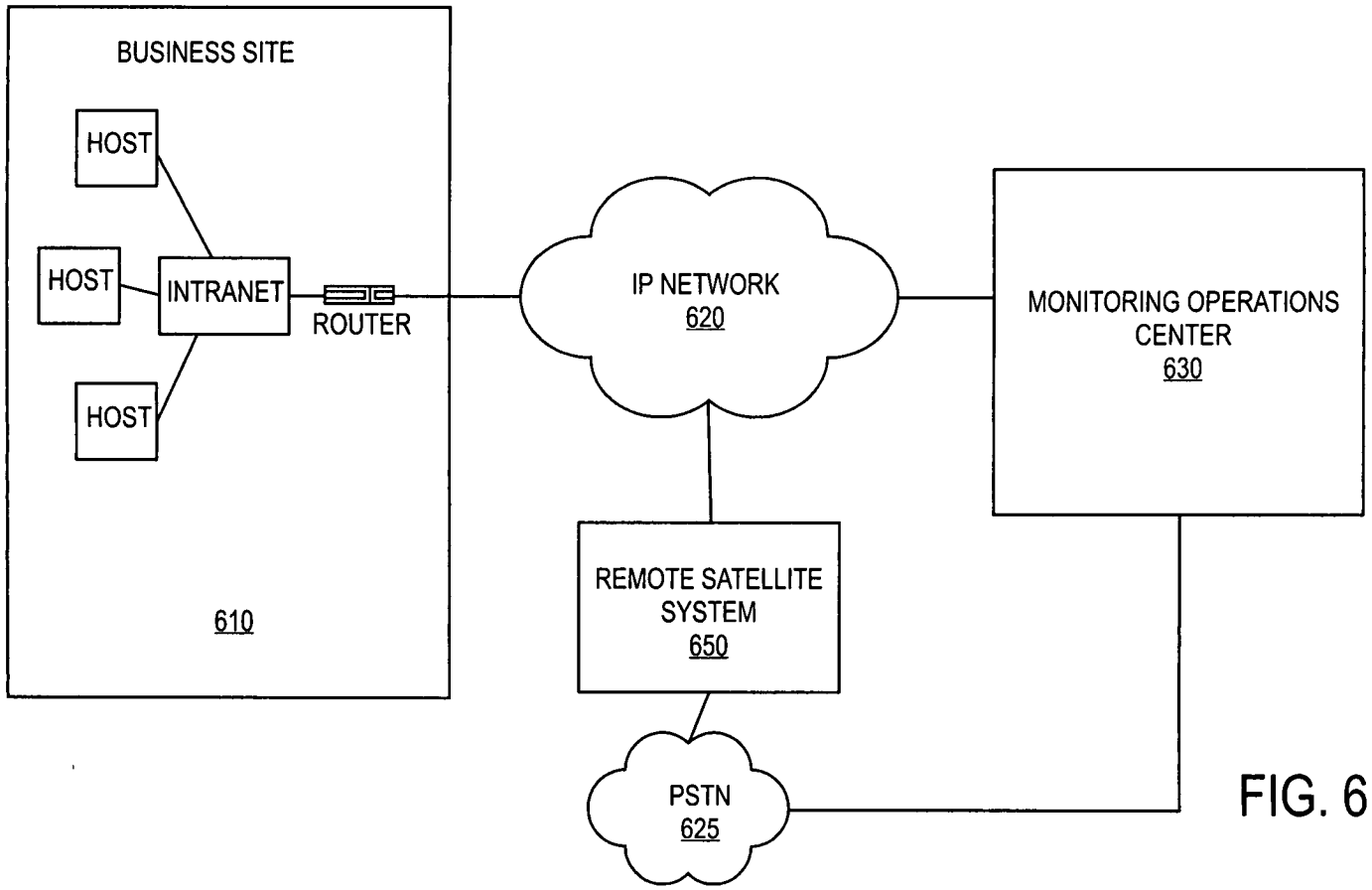
BUSINESS SITE
HOST
HOST
INTRANET
ROUTER
HOST
610
IP NETWORK
620
MONITORING OPERATIONS CENTER
630
REMOTE SATELLITE SYSTEM
650
PSTN
625

FIG. 6

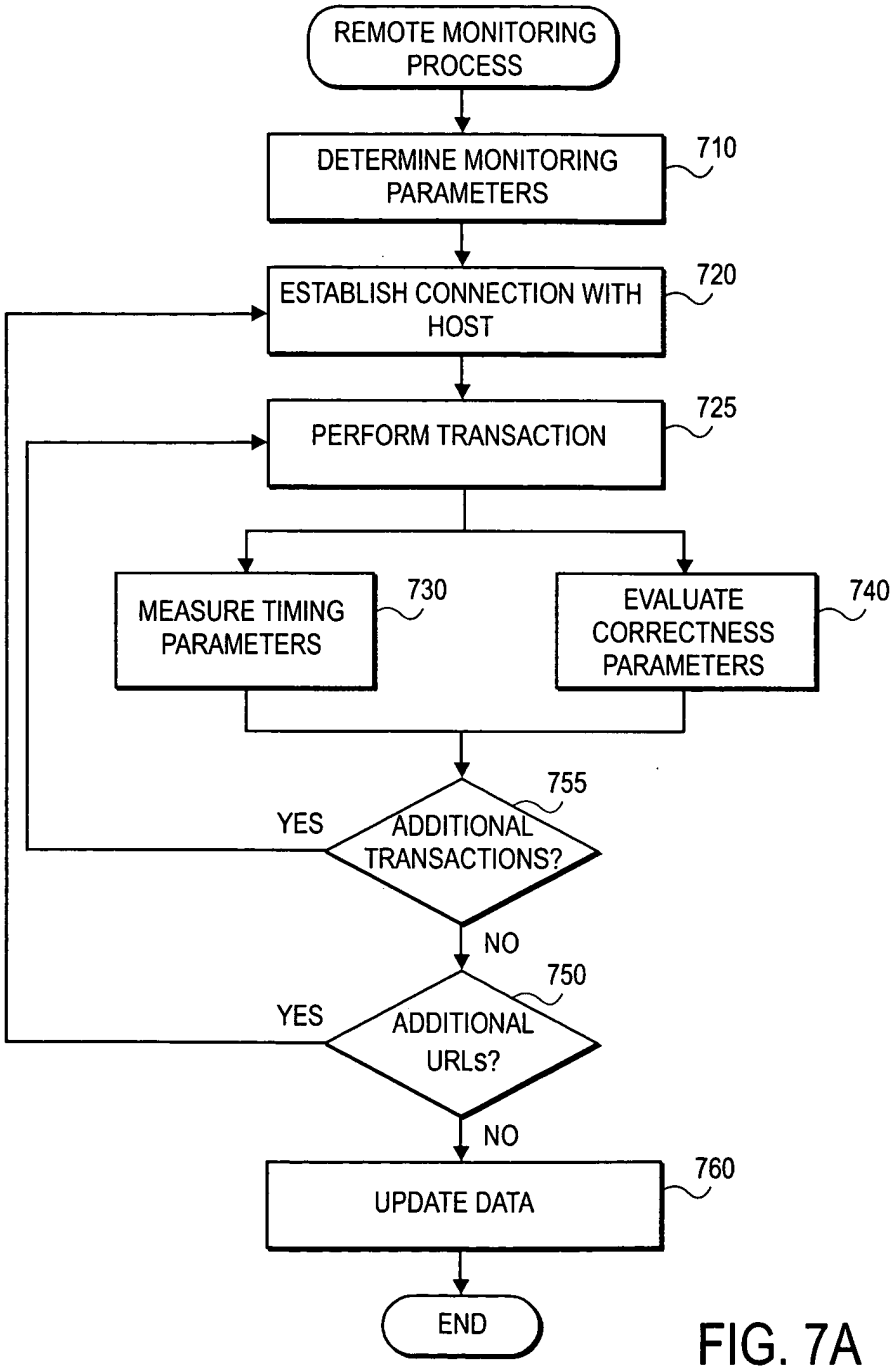
REMOTE MONITORING PROCESS
DETERMINE MONITORING PARAMETERS
710
ESTABLISH CONNECTION WITH HOST
720
PERFORM TRANSACTION
725
MEASURE TIMING PARAMETERS
730
EVALUATE CORRECTNESS PARAMETERS
740
ADDITIONAL TRANSACTIONS?
755
YES
NO
ADDITIONAL URLs?
750
YES
NO
UPDATE DATA
760
END

FIG. 7A

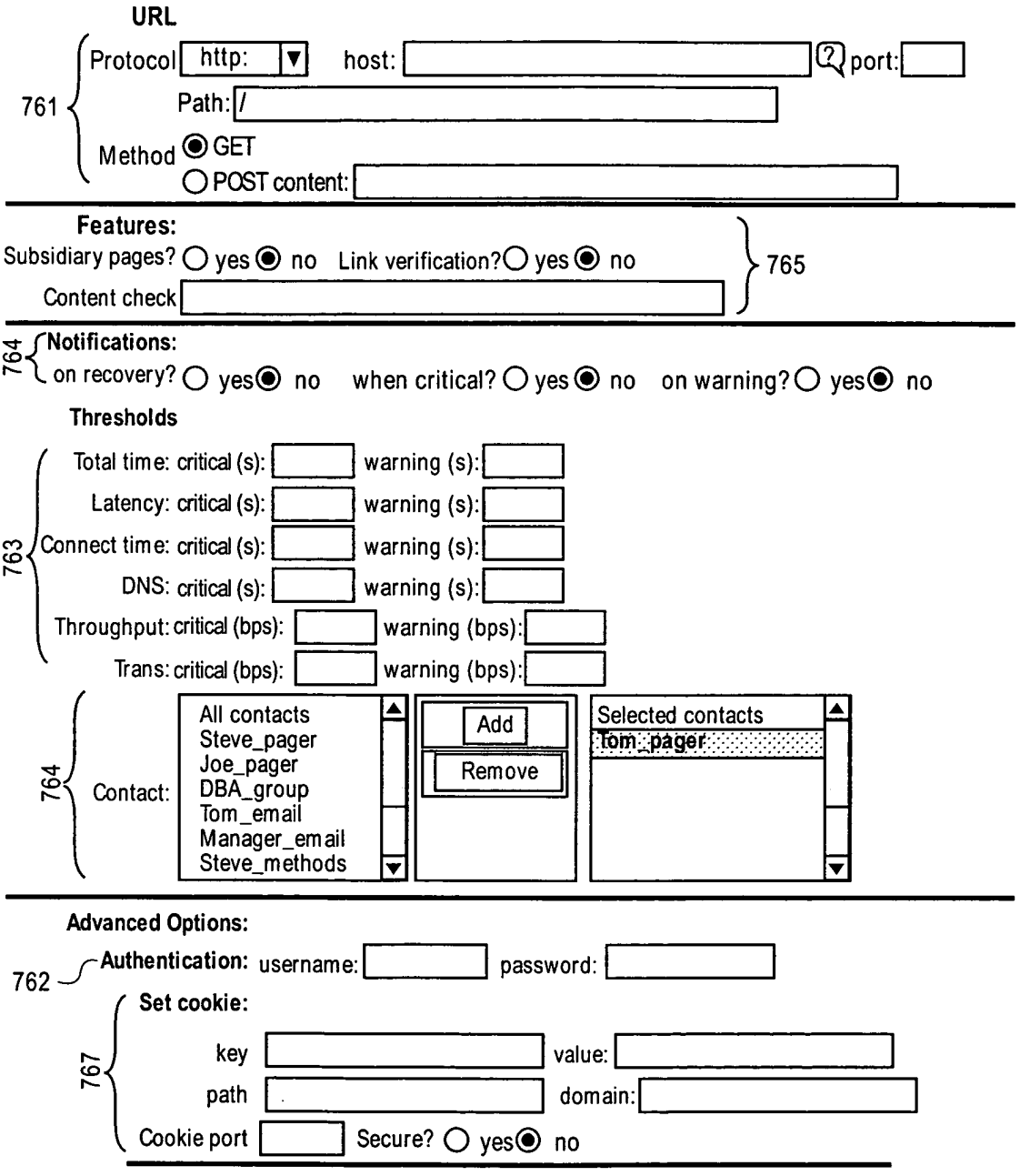
URL
761
Protocol http:
host:
port:
Path: /
Method
GET
POST content:
Features:
Subsidiary pages? yes no
Link verification? yes no
Content check
765
764
Notifications:
on recovery? yes no
when critical? yes no
on warning? yes no
Thresholds
763
Total time: critical (s): warning (s):
Latency: critical (s): warning (s):
Connect time: critical (s): warning (s):
DNS: critical (s): warning (s):
Throughput: critical (bps): warning (bps):
Trans: critical (bps): warning (bps):
764
Contact:
All contacts
Steve_pager
Joe_pager
DBA_group
Tom_email
Manager_email
Steve_methods
Add
Remove
Selected contacts
Tom_pager
Advanced Options:
762
Authentication: username: password:
Set cookie:
767
key
value:
path
domain:
Cookie port
Secure? yes no

FIG. 7B

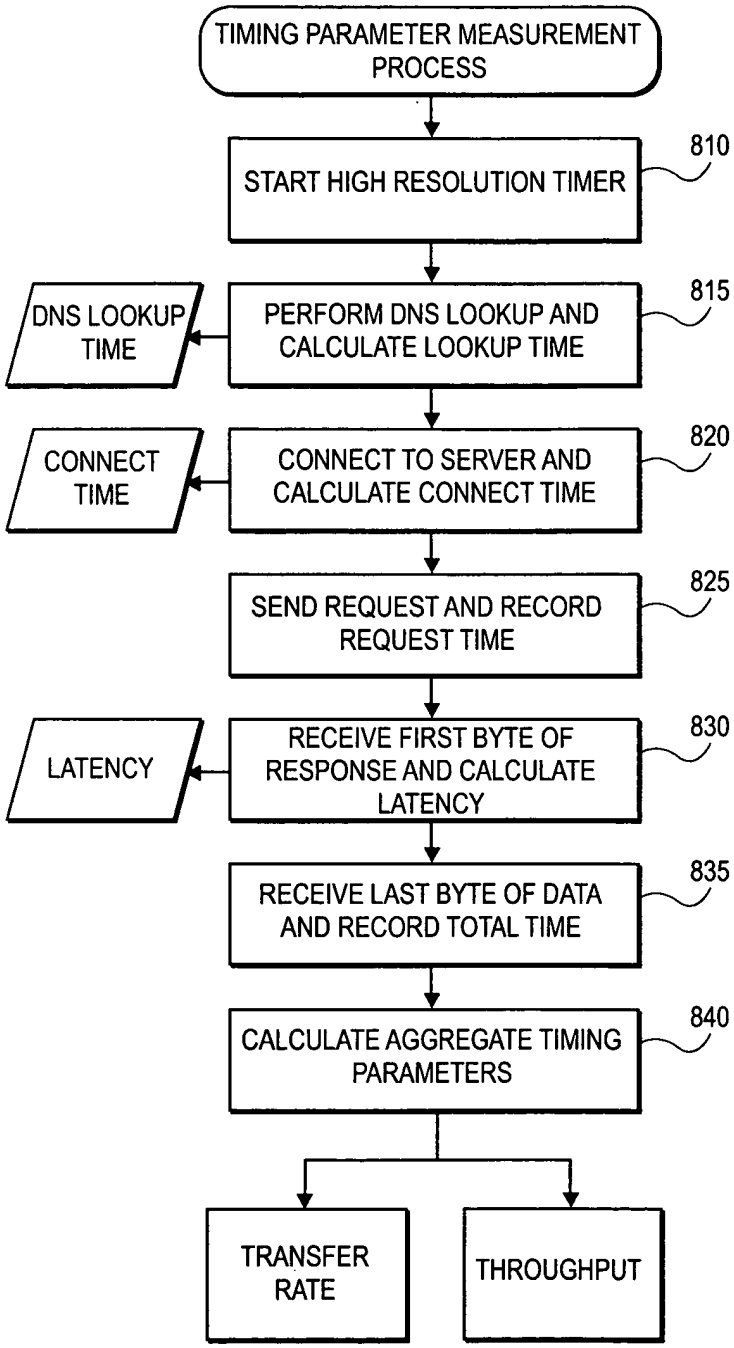
TIMING PARAMETER MEASUREMENT PROCESS
START HIGH RESOLUTION TIMER
810
DNS LOOKUP TIME
PERFORM DNS LOOKUP AND CALCULATE LOOKUP TIME
815
CONNECT TIME
CONNECT TO SERVER AND CALCULATE CONNECT TIME
820
SEND REQUEST AND RECORD REQUEST TIME
825
LATENCY
RECEIVE FIRST BYTE OF RESPONSE AND CALCULATE LATENCY
830
RECEIVE LAST BYTE OF DATA AND RECORD TOTAL TIME
835
CALCULATE AGGREGATE TIMING PARAMETERS
840
TRANSFER RATE
THROUGHPUT

FIG. 8

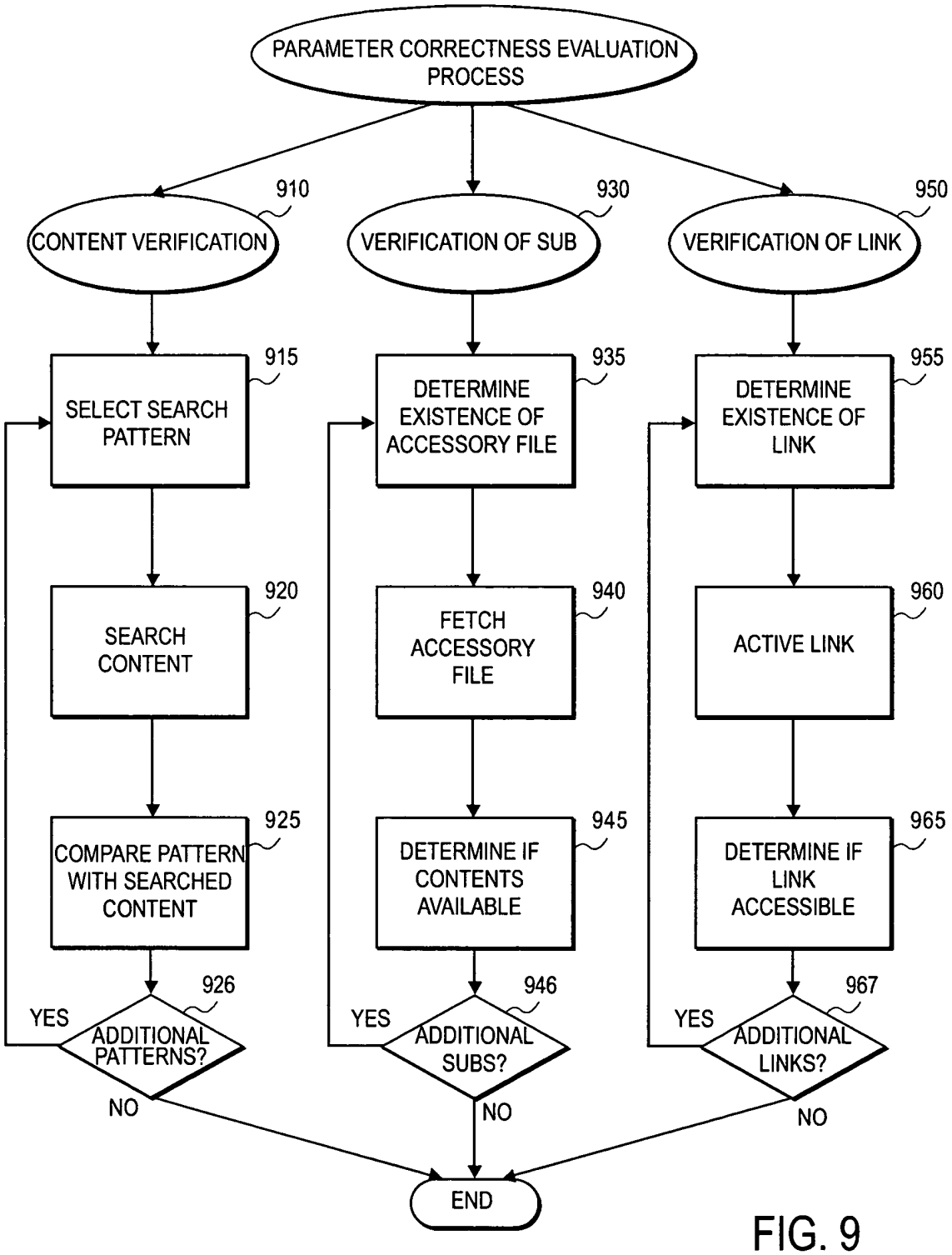
PARAMETER CORRECTNESS EVALUATION PROCESS
910
CONTENT VERIFICATION
930
VERIFICATION OF SUB
950
VERIFICATION OF LINK
915
SELECT SEARCH PATTERN
935
DETERMINE EXISTENCE OF ACCESSORY FILE
955
DETERMINE EXISTENCE OF LINK
920
SEARCH CONTENT
940
FETCH ACCESSORY FILE
960
ACTIVE LINK
925
COMPARE PATTERN WITH SEARCHED CONTENT
945
DETERMINE IF CONTENTS AVAILABLE
965
DETERMINE IF LINK ACCESSIBLE
926
YES
ADDITIONAL PATTERNS?
NO
946
YES
ADDITIONAL SUBS?
NO
967
YES
ADDITIONAL LINKS?
NO
END

FIG. 9